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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,311	11/08/2001	Masajirou Inoue	106145-00029	5180

4372 7590 10/19/2004

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WASHINGTON, DC 20036

EXAMINER
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MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/986,311	Applicant(s) INOUE ET AL.	
	Examiner Julian Mercado	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

***Remarks***

This Office action is responsive to applicant's amendment filed July 26, 2004.

Claims 1-4, 6-8 and 10 are pending.

***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on December 6, 2000. The filing of the certified copy in parent application 09/877,233 is in the process of verification, which the examiner will acknowledge at a later date.

***Claim Objections***

The objection to claim 1 for minor informalities has been withdrawn.

***Claim Rejections - 35 USC § 102***

The rejection of claims 1, 2, and 5 under 35 U.S.C. 102(a) based on JP 2000-109792 as evidenced by Hawley's Condensed Chemical Dictionary, 14<sup>th</sup> Ed. has been obviated. The examiner acquiesces with applicant's assertion that JP 2000-109792 does not teach or suggest a silicone or isobutylene series elastomer.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by

Matsukawa et al. (U.S. Pat. 6,153,326)

As in the prior Office action, the preamble recitation of polymer electrolyte membrane fuel cell having separators and a membrane electrode assembly laminated has not given the effect of a limitation in the claim as it is only directed to the purpose or intended use of the liquid thermosetting sealing agent, and the additional components of the claim(s) can stand alone without depending on the preamble for completeness.

Regarding independent claim 1, Matsukawa et al. teaches a liquid thermosetting sealing agent having a viscosity of  $10^3$  to  $10^4$  poise, equivalent to 1,000 to 10,000 Pa.S. (col. 2 line 30-38)

Regarding the amendment to claim 1 with the limitation "formed by thermally curing the liquid thermosetting sealing agent at a temperature in the range of from 100 to 130°C over a period of from 1 to 5 hours", this process limitation has not given patentable weight as the limitation does not give breadth or scope to the product claim. Notwithstanding, the predetermined temperature for thermosetting via injection molding is 100°C to 180°C. (col. 2 line 43-49, applies to claims 2, 3 and 10)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsukawa et al. as applied to claims 1-3 and 10 above.

The teachings of Matsukawa et al. are discussed above.

Regarding dependent claim 4, as to the hardness of the thermosetting sealing agent it is reasonably presumed based on the viscosities being the same that the sealing agent in Matsukawa et al. inherently has the same hardness level as claimed, absent of a showing by applicant that the claimed invention distinguishes over the reference. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990)

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steck et al. (U.S. Pat. 5,464,700) in view of Matsukawa et al. as applied to claims 1-4 and 10 above.

The teachings of Matsukawa et al. are discussed above.

As discussed in the prior Office action, Steck et al. teaches a fuel cell having separators [22, 24] and a membrane electrode assembly [30] in which the gaps between the separator and the membrane electrode assembly are tightly sealed with a seal, "[t]he portions 12c, 14c of the gasketing material layers 12, 14 overlapping the electrodes 18, 20 are now compressed between

the respective electrodes 18, 20 and the respective separator plates 22, 24". (Figure 4, col. 6 line 3-8, see also col. 5 line 64 et seq.) The gaps between the separator and the membrane electrode assembly are deemed tightly sealed to the extent that the gasketing material is resultantly compressed. (see also col. 5 line 27-33) As to dependent claim 8, in Steck et al. a plurality of single cell fuel cells collectively make up a solid polymer fuel cell (SPFC) stack. (col. 1 line 25)

Steck et al. does not explicitly teach a liquid thermosetting sealing agent with an application rate preset depending on the viscosity, width and height of the resulting seal. However, with respect to the application rate, Matsukawa et al. teaches that an injection pressure of 100 to 500 kgf/cm<sup>2</sup> allows for minimization of bubbles and fins. (col. 2 line 42-48) As to the width and height of the resulting seal, the thickness of the seal is asserted as being predetermined by the dimensions of the injection mold. (col. 3 line 50 et seq.). As to the viscosity, absent of unexpected results it is asserted that this is an optimizable parameter for a result-effective variable. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) In Matsukawa et al., for example, too low a viscosity results in undesirable ductility while too high results in inadequate fluidity. (col. 2 line 34-37)

The skilled artisan would find obvious to employ the liquid thermosetting sealing agent of Matsukawa et al. in Steck et al.'s invention, motivation for the combination coming from Matsukawa et al., "[t]he composite of the present invention may be used... preferably as a separator of a fuel cell (a solid polymer type fuel cell)". (col. 3 line 1-4)

***Response to Arguments***

Applicant's arguments against the JP '792 reference have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

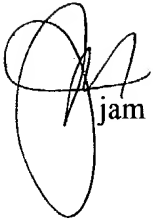
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

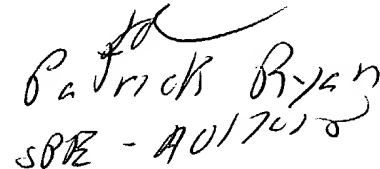
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



Patrick Ryan  
SBE - 4017410